U30057PCT

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Claims:

1. Nucleic acid sequence coding for the polypeptide of 7a5/Prognostin, selected from the group of:

   a) a nucleic acid sequence having the sequence as given in SEQ ID No: 1,

   b) nucleic acid sequences derived from said nucleic acid sequence as given in SEQ ID No: 1 as a result of the degenerated genetic code,

   c) derivatives of said nucleic acid as given in SEQ ID No: 1, which are coding for the polypeptides with the amino acid sequence given in SEQ ID No: 2 and display at least 80% of homology at the amino acid level without the biological activity of the polypeptides being significantly reduced, and

   d) a human genomic nucleic acid sequence, which comprises the gene for 7a5/Prognostin and displays polymorphisms.

2. 7a5/Prognostin-polypeptide encoded by a nucleic acid sequence according to claim 1, in particular according to SEQ ID No: 2.

3. Oligonucleotide, which specifically hybridises to a nucleic acid sequence according to claim 1, in particular according to SEQ ID No: 7.

4. Nucleic acid molecule according to claim 1, polypeptide according to claim 2 or oligonucleotide according to claim 3 as a medicament.

5. Vector containing a nucleic acid sequence according to claim 1.

6. Recombinant prokaryotic or eukaryotic host organism containing at least one nucleic acid sequence according to claim 1 or at least one vector according to claim 5.

7. Polyclonal or monoclonal antibody or antigen-binding fragment thereof, which recognises a 7a5/Prognostin-polypeptide, in particular according to SEQ ID No: 2.

8. Pharmaceutical composition comprising a nucleic acid sequence according to claim 1, a polypeptide according to claim 2, an oligonucleotide according to claim 3 or an antibody according to claim 7, optionally in combination with a pharmaceutically acceptable carrier.

9. Diagnostic composition comprising a nucleic acid sequence according to claim 1, a polypeptide according to claim 2, an oligonucleotide according to claim 3 or an antibody according to claim 7.

10. Method for the diagnosis of tumour diseases, comprising the step of determining the expression of 7a5/Prognostin in a biological sample from a pathologic tissue or bodily fluids and comparison of said expression with the expression of 7a5/Prognostin in a healthy tissue or bodily fluid.

11. Method for the diagnosis of tumour diseases according to claim 10, wherein the determination of said expression of 7a5/Prognostin comprises a hybridisation, a PCR, a "real time" (RT)-PCR, an antigen-antibody binding, an ELISA, an optical proteome analysis, a one- or multi-dimensional gel electrophoresis, an analysis by mass spectrometry, a chromatography, a sequencing procedure, a methylation analysis, a SNP-determination or combinations of these methods.

12. Method for the diagnosis of tumour diseases according to claim 10 or 11, wherein said tumour disease is metastasising and in particular is metastasising colon cancer.

13. Method for the diagnosis of tumour diseases according to one of the claims 10 to 12, wherein said biological sample is derived from a tumour biopsy from the intestine, liver, lymph nodes, lung, bones or brain or from bodily fluids.

14. Method for the treatment of tumour diseases, comprising a modulation of the expression of 7a5/Prognostin.

15. Method for the treatment of tumour diseases according to claim 14, comprising the administration of a pharmaceutical composition according to claim 8.

16. Method for the treatment of tumour diseases according to claim 14 or 15, wherein said tumour disease is metastasising colon cancer.

17. Method for the identification of substances binding to 7a5/Prognostin, the method comprising:
a) contacting a cell expressing 7a5/Prognostin with a candidate substance,
b) detection of the presence of the candidate substance that binds to 7a5/Prognostin, and
c) determination, if the candidate substance indeed binds to 7a5/Prognostin.

18. Method for the preparation of a pharmaceutical composition, comprising the steps of the method according to claim 17 and the formulation of the substance identified in step c) in a pharmaceutically acceptable form.

19. Use of a nucleic acid sequence according to claim 1, a polypeptide according to claim 2, an oligonucleotide according to claim 3, an antibody according to claim 7 or a pharmaceutical composition according to claim 8 for the treatment of tumour diseases.

20. Use of a nucleic acid sequence according to claim 1, a polypeptide according to claim 2, an oligonucleotide according to claim 3, an antibody according to claim 7 or a diagnostic composition according to claim 9 for the diagnosis of tumour diseases.

21. Use of a nucleic acid sequence according to claim 1 as a marker for human hereditary diseases.

22. Use of a nucleic acid sequence according to claim 1 or of an oligonucleotide according to claim 3 for gene therapy.

23. Diagnostic kit comprising a diagnostic composition according to claim 9, optionally also containing suitable buffers and/or operating instructions.

24. Diagnostic kit according to claim 23 in the form of a PCR-kit, in particular a RT-PCR-kit, or an ELISA-kit.